

REMARKS

The last Office Action has been carefully considered.

It is noted that claims 1-4 are rejected under 35 U.S.C. 103 (a) over the patent to Junkers in view of the patent to Berneuil.

At the same time the claims are rejected under 35 U.S.C. 112, and the drawings are objected to.

In connection with the Examiner's formal rejection under 35 U.S.C. 112, applicant has amended claims 1 and 4 as suggested by the Examiner, amended the specification, submitted a copy of the drawing with the proposed corrections.

Claims 2 and 3 have been canceled and a new claim 5 has been submitted which combines the features of the original claims 1, 2, and 3 and incorporates the changes proposed by the Examiner.

First of all, it is believed to be necessary to explain the construction of the inventive tool, in particular in connection with the

Examiner's objection to the drawings. Applicant submitted herewith a copy of the drawings with coloring of the corresponding parts and additional identifications. The second piston rod which was defined in claim 1 and now is defined in claim 5 is the piston rod which extends to the right from the piston 8 of the inventive tool. The second piston rod moves together with the piston 8. It is firmly connected with the piston 8 for example by a narrow extension which extends to the left from the second piston rod and is introduced into a corresponding hole in the piston 8 as shown in the drawings, for example with press fit or another fixed connection. The second piston rod and its left extension is colored in blue.

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0 not a
piston
rod

As can be seen from the drawings, because of the provision of the second piston rod the remaining area of the piston 8 at the right side of the piston 8 is equal to the area of the piston 5 at the right side. This feature is of exceptional importance. When the above mentioned areas of the piston 5 and the piston 8 are equal to one another, then in response to the application of the fluid, the same force is produced, and a continuous turning of the ratchet-lever mechanism is provided with the same torque, regardless of the direction of the movement of the pistons in the torque wrench disclosed in the present application.

It is believed that the drawings clearly show the feature of original claim 3 and the current claim 5, therefore no additional drawings are needed.

The patent to Berneuil discloses an actuating system for a variable area exhaust nozzle, which has a pair of pistons with a solid piston rod extending through hollow piston rod. One of the piston rods is connected to an inner flap and the other piston rod is connected to an outer flap, so that by selectively applying pressurized fluid the corresponding flaps are activated. The construction disclosed in this reference has nothing to do with the applicant's invention. First of all the actuating system for a variable area exhaust nozzle has nothing to do with fluid operated torque wrenches. The invention disclosed in Berneuil is classified in class 92, while the patent to Junkers, the primary reference applied by the Examiner is classified in class 81 which classes have nothing to do with one another. The Berneuil's invention clearly belongs to non analogous art. Moreover, the patent to Berneuil has a totally different objective, operates in a totally different manner and is based on a different principle. While in the patent to Berneuil the different pistons and piston rods activate different flaps, in the applicant's invention as well as in the patent to Junkers the different piston rods activate the same element, which is the drive element.

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pst. / apl. constr.
don't differ
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A person of ordinary skill in the art would not combine the patent to Berneuil with the patent to Junkers since he will never be looking for solutions for fluid operated torque wrenches in the art related to exhaust nozzles. Secondly he would never look for solutions for a fluid operated torque wrench in which a single drive element is continuously turnable by two different mechanisms with two different pistons and piston rods, in an area where two different piston rods are used to activate different elements, the flaps. In order to impart any similarity to the construction disclosed in the patent to Berneuil the piston rods of the pistons of the construction disclosed in this reference must be connected to a single element for driving the same, which has nothing to do with the invention disclosed in this reference.

The patent to Berneuil belongs to non analogous art, it discloses a totally different structure and it is not combinable as a matter of obviousness with the patent to Junkers. If a combination is made physically, then in the patent to Junkers two different rods of two different pistons have to operate two different elements as in the patent to Berneuil.

not
substantially
different

In accordance with the present invention in the fluid operated torque wrench of the invention there is one cylinder housing and two ratchet-lever mechanisms. As the one piston moves the ratchet-lever mechanism

to turn the ratchet forward, the other pistons moves the other ratchet-lever mechanism to ratchet backwards while the ratchet is being turned forward by the one piston. Therefore, with the same number of ratchet teeth as a regular wrench, which has just one forward stroke to turn the ratchet and reverse stroke to ratchet, each piston needs to move only half the distance and since one ratchet-lever mechanism is always engaged with the ratchet tooth, less overstroke is necessary. While this can be achieved in the Junkers patent, the difference is that in the case of a major wind-up in the bolt, the pressurized fluid can be switched so as to return both ratchet-lever mechanisms instead of having go in opposite directions, so that the tool lets the bolt unwind and can be taken off. This is not possible with the Junker's patent as both pawls are dependent on one and the same lever mechanism.

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It is believed that the patent to Junkers taken singly does not teach the new features of the present invention which are now defined in claims 1 and 4. As for the combination of the references proposed by the Examiner, it is believed that it can not be considered as obvious, and the present invention can not be derived from such a combination.

Claims 1 and 4 should be considered as patentably distinguishing over the art and should be allowed.

The Examiner's attention is respectfully directed to the features of claim 5. This claim defines that the areas of the pistons are identical in the construction in accordance with the present invention because of the provision of an additional (second) piston rod. These features are not disclosed in the references applied by the Examiner and can not be derived from them as a matter of obviousness. As explained herein above, this is an exceptionally important feature to provide a continuous operation of a tool with a same torque provided continuously, during displacements of the pistons in different directions. The second piston rod is not disclosed either in the patent to Junkers or in the patent to Berneuil, and the resulting identical areas at the applicant's side of the pistons are not disclosed in the references. In the patent to Berneuil which belongs to the non-analogous art, the areas of the pistons are clearly different. In order to show the difference the equal areas of the piston 5 and piston 8 of the applicant's invention are identified in red in Figure 2 of the original drawings attached herewith, and the corresponding areas of the patent to Berneuil are also identified in red color.

It is therefore believed to be clear that the new features of the present invention which are now defined in claim 5 are not disclosed in the references and can not be derived from them as a matter of obviousness.

Claim 5 should be considered as patentably distinguishing over the art and should be allowed.

Reconsideration and allowance of the present application is most respectfully requested.

Should the Examiner require or consider it advisable that the specification, claims and/or drawings be further amended or corrected in formal respects in order to place this case in condition for final allowance, then it is respectfully requested that such amendments or corrections be carried out by Examiner's Amendment, and the case be passed to issue. Alternatively, should the Examiner feel that a personal discussion might be helpful in advancing this case to allowance, he is invited to telephone the undersigned (at 631-549-4700).

Respectfully submitted,


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2/2

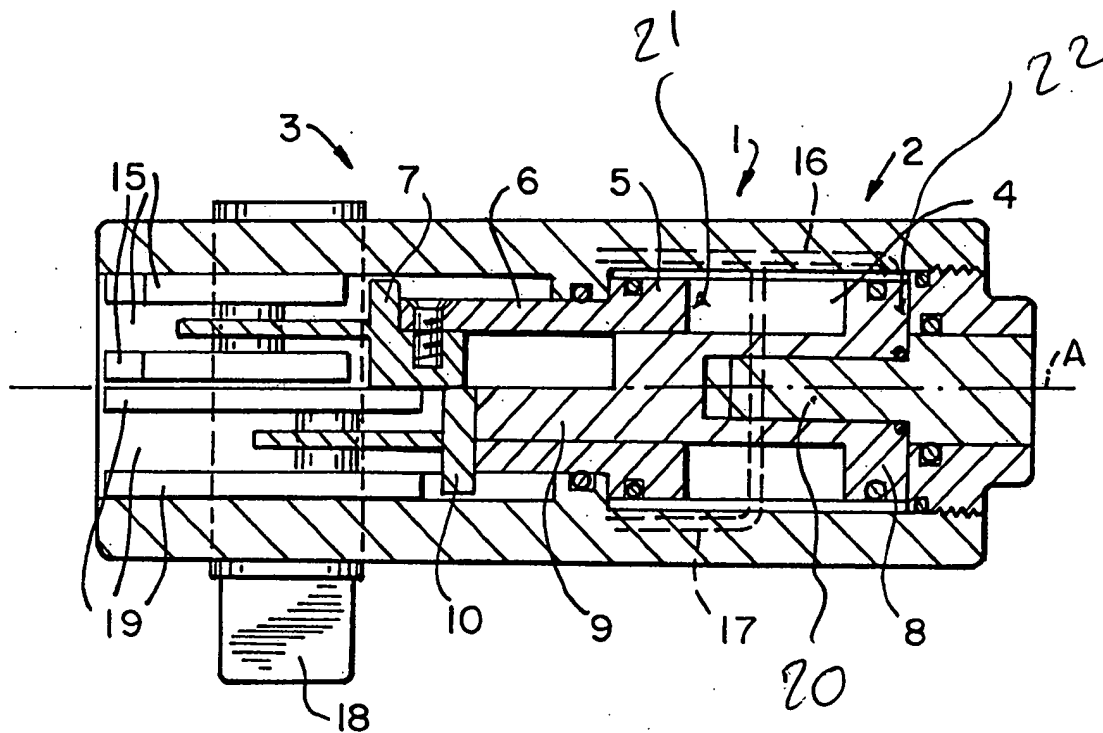


FIG. 2

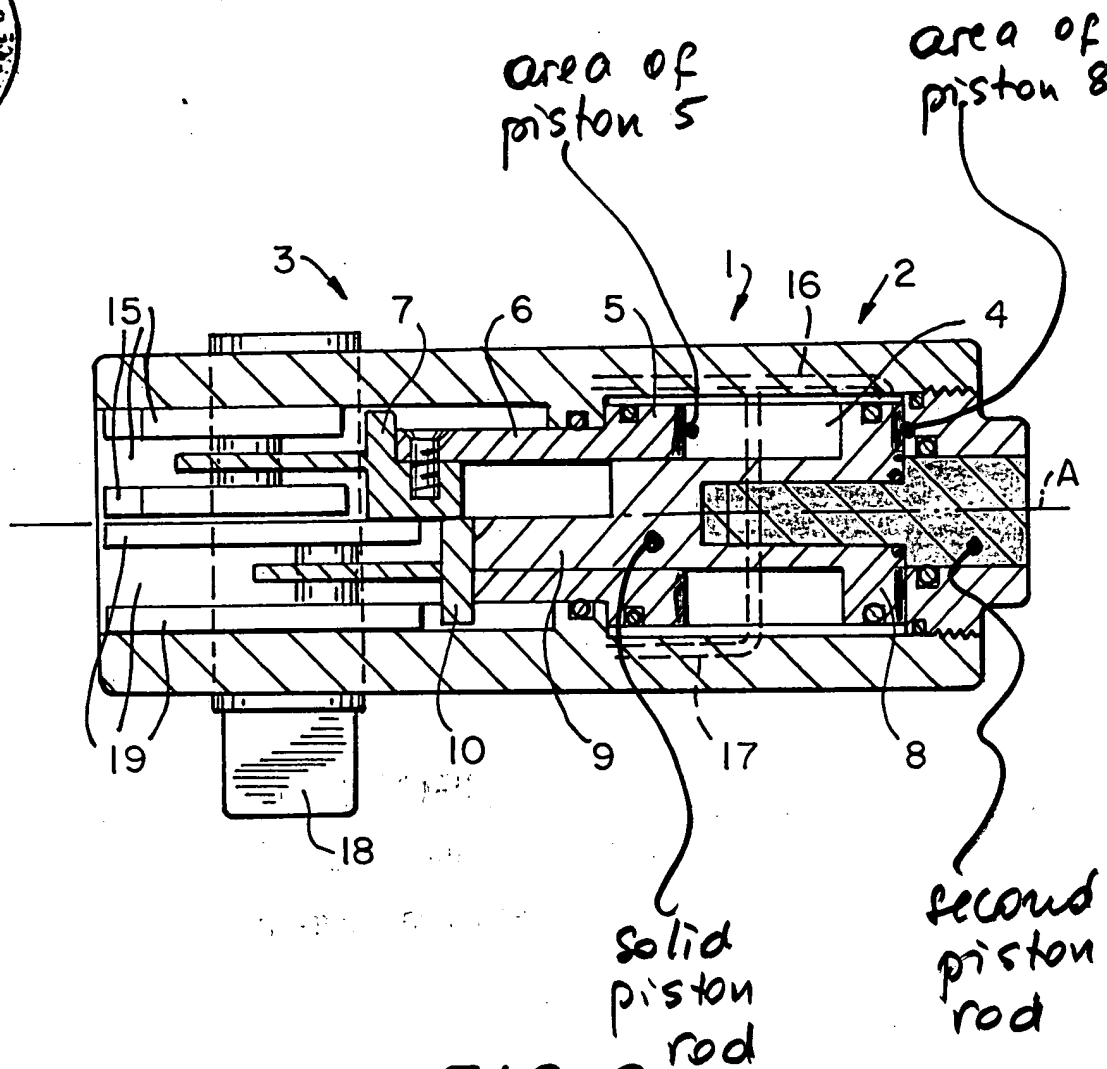


FIG. 2